CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/KRIDL/W.No.10/CSR-08/123i/CEMENT/2016-17 Date: 22.08.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
*AGENCY		**Executive Engineer,** KRIDL, Bangalore.
*NAME OF THE WORK	:	Improvements to roads at Raja Beedi and Doddabommasandra in Ward No.10, BBMP, Bangalore.
REFERENCE		BBMP/AEE/VSD/49/2016-17 Dated: 20.08.2016
SAMPLE ID	:	Cement – Sample 1
SAMPLE RECEIVED ON	:	20.08.2016
PERIOD OF TESTING	:	20.08.2016 to 22.08.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	29.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	160 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	495 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

AE ID

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Job No.: CTCE/BBMP/KRIDL/W.No.10/CSR-08/123i/SAND-Gradation/2016-17 : 22.08.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

* **Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

* **Agency** : **Executive Engineer,** KRIDL, Bangalore.

* **Name of Work** : Improvements to roads at Raja Beedi and Doddabommasandra in Ward No.10, BBMP, Bangalore.

Reference : BBMP/AEE/VSD/49/2016-17 Dated: 20.08.2016

Technical Reference : IS : 2386 Part 1 - 1963 RA-2007

Sample ID : Fine Aggregates - Sample 1

Sample Received on : 20.08.2016

Date of Testing : 22.08.2016

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	92.20	90-100	90-100	90-100	95-100
2.36	75.30	60-95	75-100	85-100	95-100
1.18	54.60	30-70	55-90	75-100	90-100
600 Micron	25.30	15-34	35-59	60-79	80-100
300 Micron	12.00	5-20	8-30	12-40	15-50
150 Micron	4.50	0-10	0-10	0-10	0-15

*Information is furnished by the Customer/Representative.

Remarks : This sample is under Zone-I specific limits.

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Job No.: CTCE/BBMP/KRIDL/W.No.10/CSR-08/123i/AGG/GR/2016-17 : 22.08.2016

TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: **Executive Engineer,** KRIDL, Bangalore.
* Name of Work	: Improvements to roads at Raja Beedi and Doddabommasandra in Ward No.10, BBMP, Bangalore.
Reference	: BBMP/AEE/VSD/49/2016-17 Dated: 20.08.2016
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (40mm) - Sample 1
Sample Received on	: 20.08.2016
Date of Testing	: 22.08.2016

Total Wt. of Aggregates in gms= **10000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	98.50	95-100	85-100
20	36.25	30-70	0-20
10	12.75	10-35	0-5
4.75	2.90	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Executive Engineer,** KRIDL, Bangalore.

*** Name of Work** : Improvements to roads at Raja Beedi and Doddabommasandra in Ward No.10, BBMP, Bangalore.

Reference : BBMP/AEE/VSD/49/2016-17 Dated: 20.08.2016

Technical Reference : IS : 2386 Part 1 -1963 RA-2007

Sample ID : Coarse Aggregates (20mm) - Sample 1

Sample Received on : 20.08.2016

Date of Testing : 22.08.2016

Total Wt. of Aggregates in gms= **5000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS :383-1970 (RA- 2007)	
		Graded	Single Sized
40	100	100	100
20	96.06	95-100	85-100
10	33.22	25-55	0-20
4.75	2.72	0-10	0-5

* Information is furnished by the Customer/Representative

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Remarks : This sample is under Graded specific limits

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Job No.: CTCE/BBMP/KRIDL/W.No.10/CSR-08/123i/CUBE/2016-17 22.09.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

***Customer**	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
***Agency**	: **Executive Engineer,** KRIDL, Bangalore.
***Name of the work**	: Improvements to roads at Raja Beedi and Doddabommasandra in Ward No.10, BBMP, Bangalore.
Reference	: BBMP/AEE/VSD/49/2016-17 Dated: 20.08.2016
***Sample ID**	: Road Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
***Grade of Concrete**	: M_{20}
Compressive Strength as on	: 28th day
Sample Received on	: 22.09.2016

Sl.No.	*Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.08.2016	22.09.2016	8.156	486.3	21.61
2	25.08.2016	22.09.2016	8.274	493.8	21.95
3	25.08.2016	22.09.2016	8.362	510.2	22.68

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Job No.: CTCE/BBMP/KRIDL/W.No.10/CSR-08/123i/CUBE/2016-17 23.09.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

***Customer**	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
***Agency**	: **Executive Engineer,** KRIDL, Bangalore.
***Name of the work**	: Improvements to roads at Raja Beedi and Doddabommasandra in Ward No.10, BBMP, Bangalore.
Reference	: BBMP/AEE/VSD/49/2016-17 Dated: 20.08.2016
***Sample ID**	: Road Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
***Grade of Concrete**	: M_{20}
Compressive Strength as on	: 28th day
Sample Received on	: 23.09.2016

Sl.No.	*Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	26.08.2016	23.09.2016	8.347	518.7	23.05
2	26.08.2016	23.09.2016	8.156	494.5	21.98
3	26.08.2016	23.09.2016	8.294	506.3	22.50

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Job No.: CTCE/BBMP/KRIDL/W.No.10/CSR-08/123i/CUBE/2016-17 24.09.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

***Customer**	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
***Agency**	: **Executive Engineer,** KRIDL, Bangalore.
***Name of the work**	: Improvements to roads at Raja Beedi and Doddabommasandra in Ward No.10, BBMP, Bangalore.
Reference	: BBMP/AEE/VSD/49/2016-17 Dated: 20.08.2016
***Sample ID**	: Road Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
***Grade of Concrete**	: M_{20}
Compressive Strength as on	: 28th day
Sample Received on	: 24.09.2016

Sl.No.	*Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	27.08.2016	24.09.2016	8.367	527.6	23.45
2	27.08.2016	24.09.2016	8.254	516.3	22.95
3	27.08.2016	24.09.2016	8.196	504.2	22.41

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Job No.: CTCE/BBMP/KRIDL/W.No.10/CSR-08/123i/CUBE/2016-17 26.09.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

***Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

***Agency** : **Executive Engineer,** KRIDL, Bangalore.

***Name of the work** : Improvements to roads at Raja Beedi and Doddabommasandra in Ward No.10, BBMP, Bangalore.

Reference : BBMP/AEE/VSD/49/2016-17 Dated: 20.08.2016

***Sample ID** : Road Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

***Grade of Concrete** : M_{20}

Compressive Strength as on : 28th day

Sample Received on : 26.09.2016

Sl.No.	*Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	29.08.2016	26.09.2016	8.257	495.3	22.01
2	29.08.2016	26.09.2016	8.369	515.7	22.92
3	29.08.2016	26.09.2016	8.475	520.4	23.13

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